

ABSTRACT

A lateral semiconductor device (10) has a semiconductor layer (15) on an insulating substrate (16). The semiconductor layer (15) has a first region (12) of a first conduction type and a second region (13) of a second conduction type with a drift region (14) therebetween. The drift region (14) is provided by a third region (14'') of the first conduction type and a fourth region (14') of the second conduction type. The third and fourth (drift) regions (14'',14') are so arranged that when a reverse voltage bias is applied across the first and second regions (12,13) of the semiconductor layer (15), the third region (14'') has locally in the proximity of the first region (12) an excess of impurity charge relative to the fourth region (14'), and the fourth region (14') has locally in the proximity of the second region (13) an excess of impurity charge relative to the third region (14''), and the total volume charge in the third region (14'') is substantially equal to the total volume charge in the fourth region (14').